

Flue gas Thermostat Type STM-RW-2

B 60.1540.0 Operating Instructions

10.03/00329536



Please read these Operating Instructions before commissioning the instrument. Keep the manual in a place that is accessible to all users at all times. Please assist us to improve these operating instructions, where necessary. Your suggestions will be appreciated.

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All necessary settings, and where appropriate, alterations inside the instrument are described in these operating instructions. However, if any difficulties should still arise during commissioning, you are asked not to carry out any unauthorized manipulations on the unit. You could endanger your rights under the instrument warranty! Please contact the nearest subsidiary or the head office in such a case.

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1 Introduction

1.1 Typographical conventions

1.1.1 Warning signs



Danger

This sign is used when there may be **danger to personnel** if the instructions are ignored or not followed correctly!



Caution

This sign is used when there may be **damage to equipment** if the instructions are ignored or not followed correctly!

1.1.2 Note signs



Note

This sign is used when your **special attention** is drawn to a remark.



Reference

This sign refers to **further information** in other chapters or sections.

abc¹

Footnote

Footnotes are remarks that **refer to specific points** in the text. Footnotes consist of two parts:

Marking in the text and the footnote text.

The marking in the text is arranged as continuous superscript numbers.

The footnote text (in smaller typeface) is placed at the bottom of the page and starts with a superscript number.

*

Action

This sign indicates that **an action to be performed** is described.

The individual steps are marked by this asterisk, e. g.

* Open housing

1.2 Application

The flue gas thermostat is used for monitoring flue gas temperatures on solid-fuel boilers in dual operation with oil-heated boilers.



Caution

When burning solid fuels, it is necessary to ensure that they are approved in accordance with the corresponding local regulations on emission protection. If this is ignored, corrosive gases may destroy the thermostat!

Operation

The flue gas thermostat operates on the principle of rod expansion. The immersion tube and the metal rod inside it have different expansion coefficients, producing a temperature-dependent difference in length which acts on the microswitch through a mechanism. The microswitch is operated above a set temperature limit. After the immersion tube has cooled down by approx. 10 to 30 °C, the microswitch is reset. Should the immersion tube break, the circuit is opened permanently.

2 Instrument identification

2.1 Nameplate



JUMO		Made in Germany	
Typ: STM-RW-2	TN		
System I	MAX: (120-10) °C	Tu	
System II	°C		
AC 10(2) A	230 V	T 80	II
AC	A	V	IP 54 IK/min
 ATW8622000			

Fig. 1 Nameplate

* Identify the instrument type by the nameplate and the type designation

2.2 Type designation

STM-RW -2	Basic type
STM	rod thermostat with microswitch
-RW	flue gas temperature monitor (ATW) with changeover contact
-2	with internal scale
STM-RW -2 /OS	Extra code
/OS	as STM-RW-2, but microswitch with 2 separate circuits
	1 x break contact (n.c.)
	1 x make contact (n.o.)

3 Mounting



The installation must be run down before mounting the flue gas thermostat Type STM-RW-2 !



The mounting site should be easily accessible and as far as possible free from shock and vibration.
The permissible ambient temperature must be observed (note possible radiant heat).

3.1 Dimensions

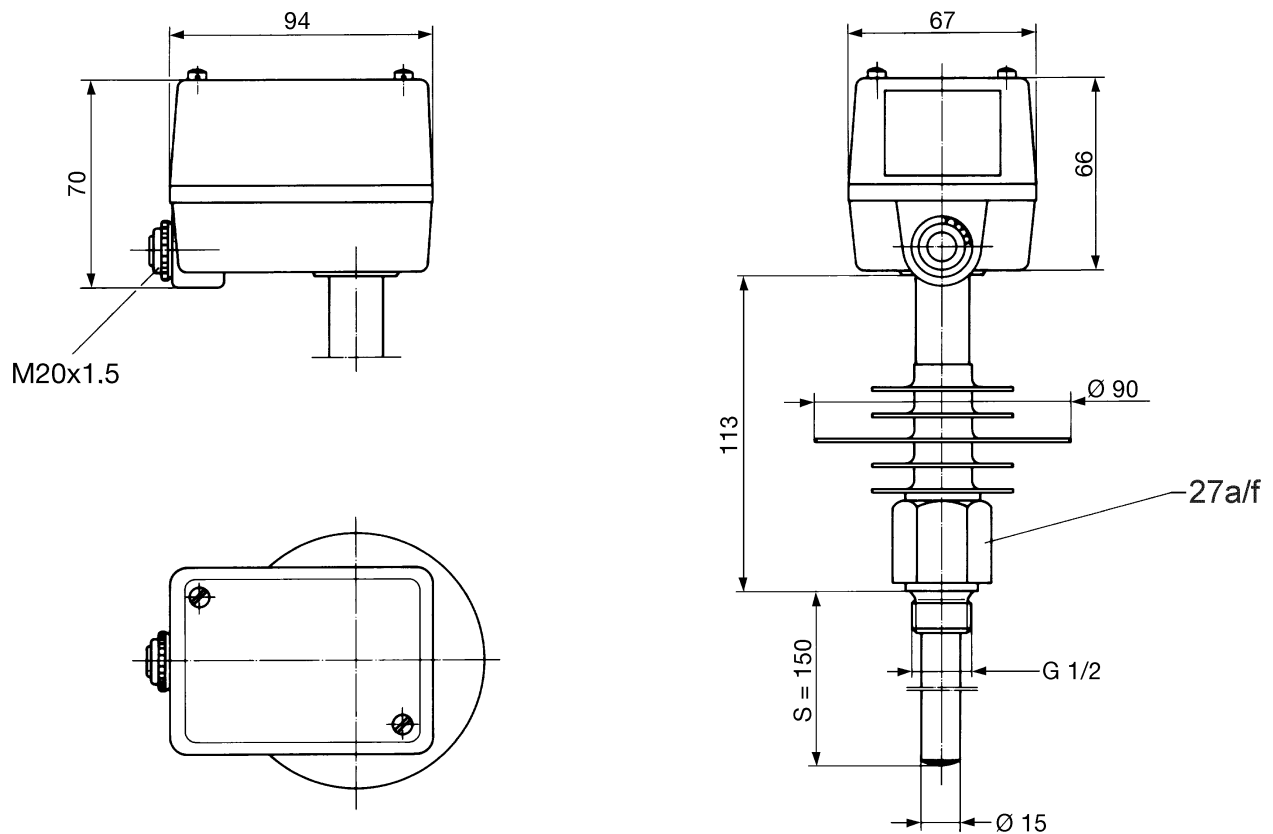


Fig. 2 Type STM-RW-2

3 Mounting

3.2 Mounting the flue gas thermostat



The thermostat is installed **without** a pocket.

The temperature probe must be at right angles to the flow direction and must be exposed to the flue gas for its entire active length. The probe end must have a clearance of at least 10 mm in the axial direction.

* Secure the flue gas thermostat by its G 1/2 pipe thread.

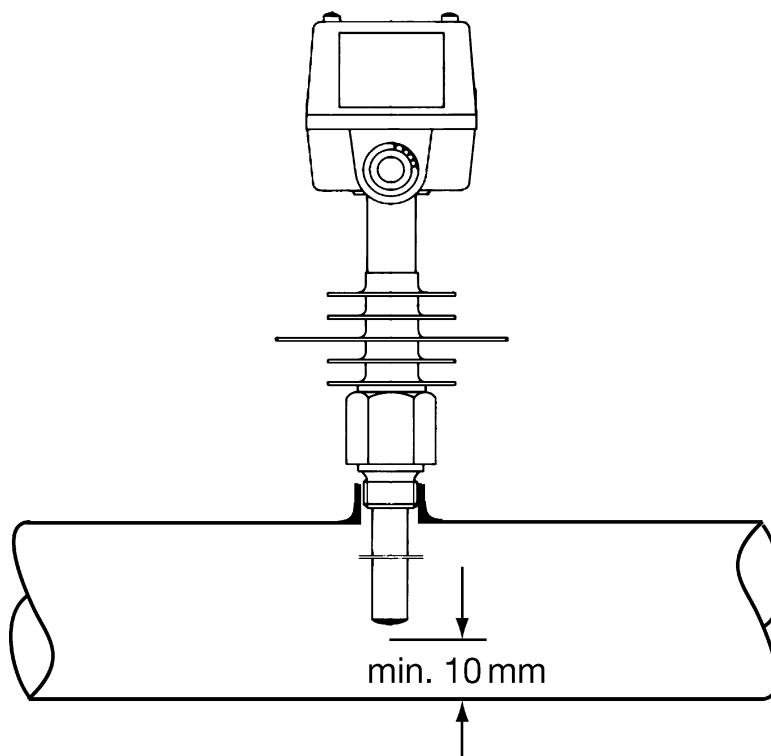


Fig. 3 Installation of temperature probe

3.3 Opening/closing the housing

- Opening/closing the cover**
- * Unscrew housing screws (1)
 - * Remove cover (2).

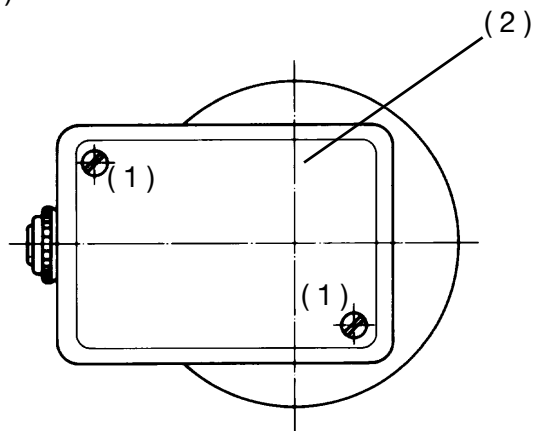


Fig. 4 Opening/closing the housing cover

- (1) Housing screws
(2) Cover

3.4 Setpoint adjustment

- * Open housing cover, see above
- * Adjust setpoint on the spindle (1) using a screwdriver.

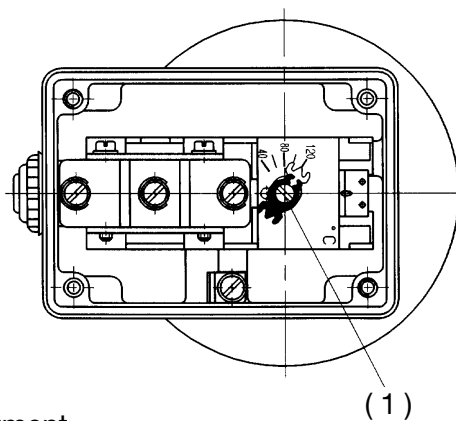


Fig. 5 Setpoint adjustment

- (1) Spindle

4 Installation

4.1 Regulations and notes



- ❑ The electrical connection must only be carried out by properly qualified personnel.
- ❑ The choice of cable, the installation and the electrical connection must conform to the requirements of VDE 0100 "Regulations on the Installation of Power Circuits with nominal voltages below 1000 V" or the appropriate local regulations.
- ❑ If contact with live parts is possible while working on the unit, it must be completely disconnected from the supply.
- ❑ Earth the instrument at the PE terminal with the protective earth conductor. This cable must have at least the same cross-section as used for the supply cables. Earth cables must be wired in a star configuration to a common earth point that is connected to the protective earth of the supply. Do not loop earth cables, i.e. do not run them from one instrument to another.

4.2 Electrical connection

- * Make connection according to the connection diagram

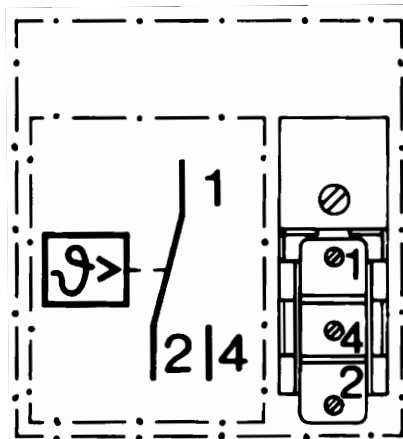


Fig. 6 Type STM-RW-2

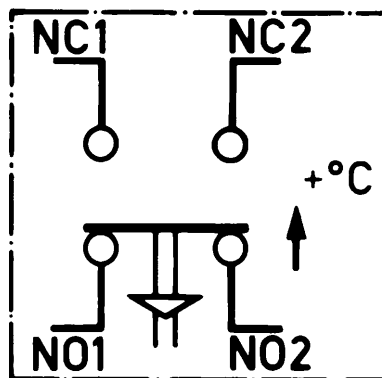


Fig. 7 Type STM-RW-2/OS

5 Instrument description

5.1 Technical data

Limit range	standard: +40°C to +120°C (factory-set to +100°C) special version: +20°C to +400°C (factory-set to +120°C)		
Permissible ambient temperature	at probe: max. +700°C at thermostat head: max. +80°C, min. -50°C		
Contact rating	10(2) A, 230 V AC, p.f. = 1(0.6) 0.25 A, 230 V DC		
Switching differential	Limit range	STM-RW-2	STM-RW-2/OS
	+40°C to +120°C	10 to 18°C	10 to 30°C
	+20°C to +400°C	10 to 22°C	10 to 40°C
Switching point accuracy referred to switch-off point	Limit range	Scale start	Scale end
	+40°C to +120°C	+ 0°C -10°C	+ 0°C -10°C
	+20°C to +400°C	+ 0°C -15°C	+ 0°C -20°C
Mean ambient temperature error	switching point displacement, referred to the deviation from +22°C ~ 0.07 °C/°C		
Protection	IP54 to EN 60 529, operation under normal conditions		
Fusing required	16 A		
Operating medium	flue gas		
Time constant	≤ 45 sec		
Operating position	to DIN 16 257, NL0 — NL90 (other NL on request)		
Action	to EN 60 730-1 Type 2BL= automatic action with micro switch-off in operation, no auxiliary energy supply required.		

5.2 Maintenance/fault

The flue gas thermostat requires no maintenance. In the event of a fault, please contact your supplier or the head office (see back cover for address).



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